REMARKS

Claims 19-24, 26-36, and 38-43 are all the pending claims, with claims 19 and 37 being written in independent form.

I. Claim Rejections Under 35 U.S.C. § 112(2nd):

The Examiner rejects claims 19-24 and 26-36 under 35 U.S.C. § 112(2nd) because claim 19 recites the terms "grid fashion" and "step-by-step fashion." As a path of least resistance, and without acquiescing to the correctness of the rejection, Applicants amend claim 19 by altogether deleting the objectionable terms.

Applicants respectfully submit that amended claim 19 more particularly points out and distinctly claims the subject matter regarded as the invention, thereby overcoming all of the rejection under 35 U.S.C. 112(2nd).

II. Allowable Subject Matter:

At numbered paragraph 5 of the Office Action, the Examiner indicates that claims 26-36 would be allowable if they were rewritten in independent form. Applicants do not, however, rewrite these claims because base claim 19 is believed to be patentable for the reasons discussed in detail below.

III. Claim Rejections on Prior Art Grounds:

The Examiner rejects claims 19-24 under 35 U.S.C. § 102(b) as being anticipated by U.S. 5,743,005 to Nakao ("Nakao"). Applicants respectfully traverse this rejection in view of the following remarks.

A. Independent Claim 19:

Independent claim 19, which is amended for clarification, recites (among other things) that the movable head includes at least one storage element

having a plurality of storage spaces that are "*distributed on a sliding part mounted on said head.*" An exemplary, non-limiting embodiment of this feature is depicted in Fig. 1. Here, the head 1 includes an annular storage element 7 that has a sliding part 8 and a stationary part 9. The sliding part 8, which is provided with a plurality of storage spaces 11, is rotatable as shown by arrow D. At least these features (as recited in claim 19), in combination with the other features defined by claim 19, are not taught or suggested by the prior art relied upon by the Examiner.

With reference to Fig. 1 of Nakao, the disclosed apparatus includes a component supply section 1 in which the supply units 3 are provided. The apparatus also includes a robot 8 with a movable arm 8a. The sucking unit 9 is provided at the end of the arm 8a. During operation, the robot 8 moves the sucking unit 9 to the supply section 1, where the sucking unit 9 retrieves a component 11. The robot 8 then moves the sucking unit 9 to a work area (which is away from the supply section 1 and the supply units 3), where the sucking unit 9 mounts the retrieved component 11 onto a circuit board 5. In this regard, Nakao merely follows the conventional wisdom discussed as background in the present specification: i.e., the number of components that may be transported by the sucking unit 9 (at any one time) from the feed devices to the work area (or substrate) is restricted to the number of suction pipettes (or nozzles 15).[1] The sucking unit 9 does not, however, include any element that is comparable to the storage element defined by claim 19.

The Examiner's attention is respectfully directed to Fig. 2, which illustrates that structural details of the sucking unit 9. Here, the sucking unit 9 includes a guide rail 12, two motors 13, 14, a CCD camera 16, a fixed mirror

[1] Spec., p. 1, l.10 – 17.

17, and a nozzle 15.[2] However, the supply section 1 (compared by the Examiner to the claimed storage element) and the supply units 3 (compared by the Examiner to the claimed storage spaces) are not depicted in Fig. 2. This is because the supply section 1 and the supply units 3 are not constituent elements of the sucking unit 9. Thus, Nakao's sucking unit 9 does not include the supply section 1 or any other element for storing components. The Examiner's assertions to the contrary are tenable only by placing a strained interpretation on the reference.

Furthermore, the Examiner compares the robot arm 8a to the sliding part of the claimed invention. This comparison of elements is simply incorrect because the supply units 3 (compared by the Examiner to the claimed storage spaces) are not distributed on (i.e., spread over) the robot arm 8a. Indeed, as clearly shown in Fig. 1, the supply units 3 are spread over the supply section 1 (not the robot arm 8a).

B. Independent Claim 37:

Independent claim 37 is similar to claim 19 because claim 37 recites (albeit in a slightly different format) that the equipping head includes at least one storage element. As noted above, Nakao is not pertinent to this feature because the supply section 1 is not a constituent element of the sucking unit 9.

Claim 37 is also believed to be patentable because it recites that the storage element and the gripper are "*movable together with the head between the feed devices and the substrate.*" An exemplary, non-limiting embodiment of this feature will be appreciated with reference to Figs. 1 and 2. In Fig. 1, the equipping head 1 (inclusive of the storage element 7 and the grippers 4) is positioned above a component tape 2 of a feed device. The equipping head 2 is

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[2] Nakao, col. 3, lines 47-61.

movable (see the arrows x, y) from the position shown in Fig. 1 to the position shown in Fig. 2, where the equipping head 1 is positioned above the substrate 13. Since the storage element 7 and the grippers 4 are constituent elements of the equipping head 1, they move together with the equipping head 1 between the feed devices and the substrate. At least this feature (as recited in independent claim 37), in combination with the other features defined by claim 37, is not or suggested by the Nakao reference.

In Nakao, the robot 8 moves the sucking unit 9 between the supply section 1 (inclusive of the supply units 3) and a work area in which the sucking unit 9 mounts the retrieved component 11 onto a circuit board 5. The supply section 1 (compared by the Examiner to the claimed storage element) does not move together with the sucking head 9. Nakao's disclosure is straightforward and explicit in this regard.

More specifically, the Examiner's attention is respectfully directed to Fig. 3 of Nakao, which depicts an operation flowchart. Here, at steps 1-5, the robot 8 is moved to the component supply section 1, where the sucking nozzle 9 retrieves a component 11 from the supply unit 3. Then, at steps 6-10, the robot 8 is moved from the component supply section 1 to the work area, where the sucking unit 9 mounts the component 11 onto the circuit board 5. Nakao's supply section 1 does not move together with the sucking head 9.

C. Summary:

In summary, Applicants respectfully submit that independent claims 19 and 37 recite features that are practically and conceptually different than Nakao. In fact, Nakao teaches nothing more than the conventional wisdom discussed as background in the present specification. That is, the sucking unit 9 retrieves a component from storage, carries the component to a work area, and then mounts the component on an awaiting circuit board. The sucking

unit 9 itself does not, however, include any constituent element that is comparable to the storage element of the claimed invention.

For these reasons, Applicants respectfully submit that claims 19 and 37 are patentable, and that claims 20-24, 26-36, and 38-43 are patentable at least by virtue of their dependencies.

CONCLUSION

In the event that any matters remain at issue in the application, the Examiner is invited to contact the undersigned at (703) 668-8000 in the Northern Virginia area, for the purpose of a telephonic interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, P.L.C.

By _____

Ray Heflin
Reg. No. 41,060

P.O. Box 8910
Reston, VA 20195
(703) 668-8000

DJD/HRH:ybm